

AMERICAN BEE JOURNAL



GEORGE W. YORK,
Editor.

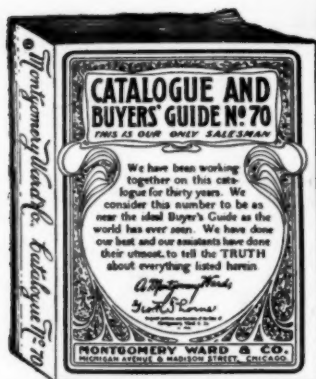
CHICAGO, ILL., MAY 15, 1902.

FORTY-SECOND YEAR
No. 20.

WEEKLY



ATTIC APIARY OF REV. W. S. SLY, OF INGHAM CO., MICH.
—(See page 315).



This is our Famous Catalogue. It can be found in over two million homes of thinking people. Is it in yours?

Why Not Start Now?

Spring is at hand and you will need supplies of all kinds. If you are a progressive, up-to-date buyer, go slow and place your order where you will get biggest returns for your dollar.

HAVE YOU EVER TRIED MONTGOMERY WARD & CO. of Chicago? Perhaps you have long intended to, but never knew how to begin. Why not start now? Our Catalogue No. 70, revised for Spring and Summer, is just out, our building is piled from basement to roof with good things—the very best our active buyer could gather in the best markets; every employe in our big establishment is ready and waiting to serve you to the best of his or her ability—just as though you were shopping over our counters. We've been preparing for this event all winter, and believe that there never was a better opportunity for shrewd, active buyers to start purchasing on our wholesale prices—no middlemen—one profit plan. The Spring and Summer edition of

CATALOGUE NO. 70 IS NOW READY. Over 1000 pages packed with the good things of life—everything you use—gathered by our buyers from the markets of the world. Page after page of high grade merchandise, all illustrated and honestly described.

SEEMS TO US THAT YOU OUGHT TO HAVE A COPY. We want you to have one—so much so that we will furnish the book free and pay one-half the postage if you will pay the rest, fifteen cents. There are so many people in this country bubbling over with curiosity, or trying to get something for nothing, that we are compelled to make this trivial charge. It is only fifteen cents but it assures us that you are acting in good faith and are interested in our business. Why not ask for it today, before you forget it?

Montgomery Ward & Co., • Chicago

Please mention Bee Journal when writing

Langstroth on... The Honey-Bee

Revised by Dadant—1900 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helped on the way to success with bees.

The book we mail for \$1.25, or club it with the American Bee Journal for one year—both for \$1.75; or, we will mail it as a premium for sending us **THREE NEW** subscribers to the Bee Journal for one year, with \$3.00.

This is a splendid chance to get grand bee-book for a very little money or work.

GEORGE W. YORK & CO.

144 & 146 Erie Street, CHICAGO, ILL.

Please mention Bee Journal when writing advertisers.



FOR GETTING NEW SUBSCRIBERS.

Red Clover Queens FOR 1902 FREE!

Long-Tongue Variety—Warranted Purely Mated

We have arranged with the queen-breeder who furnished Long-Tongue Red Clover Queen for us during the season of 1901, to fill our orders this season. Although fully 95 percent of the untested queens he sent out were purely mated, this season all that he mails for us will be **warranted** purely mated.

We want every one of our present subscribers to have one or more of these money-maker Queens. We have received most excellent reports from the queens we supplied last season. And this year our queen-breeder says he expects to be able to send out even better Queens, if that is possible. He is one of the very oldest and best queen-breeders. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, of beautiful color, very gentle, scarcely requiring veil or smoke.

Orders for these fine, "long-reach" Warranted Queens will be filled in rotation—"first come first served"—beginning as early in June as possible. It is expected that orders can be filled quite promptly (even better than the past season), as a much larger number of queen-rearing nuclei will be run. (But never remove the old queen from the colony until you have received the new one, no matter from whom you order a queen).

All Queens will be guaranteed to arrive in good condition, and will be clipped, unless otherwise ordered.

A Warranted Queen for Sending us only TWO NEW YEARLY SUBSCRIBERS.

In order that every one of our subscribers who wants one of these Warranted Queens this season can easily earn it, we will book your order as follows:

No. 1.—For sending us the names and addresses of **two new subscribers** to the American Bee Journal and \$2.00, we will mail you **ONE** of these queens free.

No. 2.—Or, for sending us **one new** subscription at \$1.00, and 30 cents more (\$1.30), we will mail you a queen, and the Bee Journal for one year to the new subscriber.

No. 3.—Or, send us \$1.60 and we will send to you the Bee Journal for one year, and also a queen.

This indeed is an opportunity to get a superior Queen, and at the same time help swell the list of readers of the old American Bee Journal.

We are now ready to book the Queen orders, and also to enroll the new subscriptions. Remember, the sooner you get in your order the earlier you will get your Queen. We hope that every one of our present readers will decide to have at least one of these Queens. Address,

GEORGE W. YORK & CO.,

144 & 146 Erie Street, CHICAGO, ILL.

ESTABLISHED IN 1861 AMERICAN THE OLDEST BEE-PAPER IN AMERICA BEE JOURNAL

42d YEAR.

CHICAGO, ILL., MAY 15, 1902.

No. 20.

✱ Editorial. ✱

The Jamaica Bee-Keepers' Association is not a bee-keepers' association in the usual sense of the term. This office is in receipt of a circular "setting forth the object and methods of the Jamaica Bee-Keepers' Association more clearly," from which it appears to be a good deal like a company united to dispose of honey on commission, charging patrons $2\frac{1}{2}$ percent commission and 1 percent brokerage. At present their market is to be London and Bristol, the honey to be shipped in barrels in preference to tin.

Weather for Handling Bees.—Some have said that less stings will be received when handling bees in cool, cloudy weather. Possibly there may be something in that with some bees, especially black bees, if the air is so cool that they are inclined to be stupid. But beginners should understand that even if the bees will permit it, the brood-nest should never be disturbed when it is too cool for bees to fly freely. Moreover, it is true in general that the hotter the day the better-natured the bees. If you want to have a big fight on your hands, just open a hive of Italians when it is so cool that none of the bees are flying. Even in pretty good weather it will be found that as the temperature becomes cool toward evening the temper of the bees changes with it. When it is too hot for you to stand coat or vest, if bees are gathering at all, you will find them on their best behavior.

Apropos of this subject, Bulletin de la Meuse says: "To open a hive in cold and windy weather is as imprudent as to take a baby from its warm cradle and expose it to a current of air in its chemise."

Don't Crowd the Bees.—One of the factors that plays an important part in causing bees to swarm is the lack of room. Indeed, it may be the greatest factor, for with very large hives and abundant super-room some report that not more than two to five colonies in a hundred swarm. As it is quite generally admitted nowadays that swarming militates against the greatest yield of surplus, the effort should be to give all the room needed. For after preparations for swarming are started, no amount of additional room will dissuade the bees from their purpose. The old rule to give supers as soon as bits of white wax are seen along the top-bars is an excellent rule in all respects except as to its bearing on swarming. The likelihood is, that

when these bits of new wax are found deposited where they are not needed it is because there is some feeling on the part of the bees that they are getting into cramped quarters—a feeling that ought not to be allowed to obtain if it is desired to keep down all thoughts of swarming.

Do not wait for any inside indications of the need of supers, but take your cue from the outside. If you are in a white clover region, watch for the very first clover blossom that appears, and put on supers at once. They will not be heeded by the bees for ten days, because a stray blossom will be seen here and there before the clover harvest begins, but if supers are on in advance the bees will begin promptly in them when the harvest begins, and in many cases they will become so interested in storing that they will not stop to discuss whether they should swarm.

The little harm done by having needless room to keep warm will be richly repaid by the great advantage of having full attention given to storing with no distraction in the way of swarming.

Value of Old Combs.—In the Australasian Bee-Keeper is a symposium upon extracting wax from old combs. Among others G. Colbourne gives his plan, but closes by saying:

But I would like to ask, Why melt up those old combs? I have yet to see the comb that was too old to use. I would never think of melting a comb because it was too old; those combs are as good as a little gold mine to me. How I can make the extractor hum, in throwing out thick honey from them, whereas, if I had a new comb I must go slow, no matter how well it is wired. No, my friends, don't melt up your old combs. If you want to get good wax melt the new, and keep the old ones to extract from.

Keeping Breeding-Queens in Nuclei.

—This question is raised by a correspondent who seems not fully determined in his own mind that best results in queen-rearing can be obtained if the queen whose eggs are used for queen-rearing be kept in a nucleus. He says:

"As a queen thus confined and kept back in her egg-laying duties is surely not in a normal condition, the thought came to me that it might possibly have a detrimental effect on her progeny. It might be very slight at first, but if kept up for several generations it might be more noticeable. Isn't it agreed that better queens can be reared when 'all hands' are busy and the queens are laying 'full speed' than at any other time? I don't know that there is the least ground for my suspicions, but I thought it might be well to look the matter up a little."

It is not likely that there is anything wrong in the general impression that better queens are reared when bees are gathering freely, and the temperature in the brood-nest is such that

there is never any danger of the slightest chilling of brood. For at such times there is every facility and every inducement on the part of the nurse-bees to feed the royal larvae bountifully. A royal larva in a full colony is not likely to be well fed at a time nothing is doing, and consequently a limited amount of the proper food prepared; and no doubt the case is still worse in a nucleus. Observation on the part of many confirms this belief.

How is it if the mother-queen is in a nucleus? If the proper proportion of nurse-bees are present, may they not be as active as in a full colony? And having a limited amount of brood to feed, may they not feed the queen as lavishly as she would be fed in a strong colony? Being well fed, and having little laying to do, if it is true that laying is exhaustive, ought she not to be in a greater vigor, if possible, than in a strong colony? and as a consequence ought not her eggs to be of the best quality? Then during the very short time that the young larvae are fed before being taken—a time not exceeding perhaps 24 or 36 hours—why should they not be fed as well as in a strong colony? The case might be different if queens were reared in cold weather, when proper heat can not be kept up in a nucleus; but queens are reared at a time when the bees have to work to keep down the temperature rather than to raise it.

If there is anything wrong in the foregoing view it is very desirable that it should be pointed out, for in a matter on which so much depends it is important that no wrong view should prevail.

Prolonging Life of the Queen.

When one has a queen that is especially valuable for breeding purposes, it may be desirable to have her live as long as possible. A practice more or less common is to keep such a queen in a nucleus. The question may be raised whether there is any evidence that a queen kept in a nucleus will live any longer than if she were kept in a strong colony. It is well known that workers live much longer when doing little or nothing than when working hard. As laying eggs is the work of the queen, there seems some reason for believing that heavy laying will shorten the life of a queen, just as hard work shortens the life of a worker. It would be a satisfaction if those who have had much experience in the matter would report upon it, and say how the length of life of queens in nuclei has compared with that of queens in strong colonies.

The idea of keeping a queen in a nucleus will result in greater longevity of offspring has been scouted as ridiculous, but it may be questioned whether any one has ever seriously advocated such a thing.

Convention Proceedings.

The Chicago Convention.

Report of the Semi-Annual Convention of the Chicago Bee-Keepers' Association, Held Dec. 5, 1901.

BY A SHORTHAND REPORTER.

(Continued from page 294.)

A WAX-PRESS IN A SOLAR WAX-EXTRACTOR.

"Has there ever been a wax-press on the inside of the solar wax-extractor?"

Mr. Blunk—That's a question of mine. I have seen a good deal about the German wax-press. Why cannot we press it right in the solar extractor? That's why I ask if there has been one, and, if a success, I would like to have one. If not, I am going to make one.

Mr. Dadant—While I can't exactly answer the question, we have used solar extractors both for combs and residue of hundreds or thousands of pounds of beeswax. The first principle is to have the sun strike the beeswax. Put a press in there, and the sun doesn't strike the beeswax.

Mr. Blunk—You wouldn't be pressing all the time.

Mr. Dadant—Take what is in your solar extractor, and put it in the press while hot.

Mr. Blunk—Press right through at the time. When you get enough in there, press it by screwing.

Mr. Dadant—You must remember the thing must be all in the sun, and it must be scattered. When scattered there will be very little of it. If you put two combs, one on top of the other, the under comb will not melt. If you have only one-comb thickness there will be so little to press that it will stick. One thing we have done, and that is to take it out on a hot day, in the heat of the July sun, and press it right through, and get little of it; but it isn't worth it.

INTRODUCING QUEENS TO A LAYING-WORKER COLONY.

"When a colony loses its queen and develops a laying worker, can a fertile queen be introduced successfully?"

Dr. Miller—Find that laying worker, take it away and put another queen in. The only trouble is that when there is one laying worker there, there may be 50 or 100 or 1,000 of them. The notion that there was only one laying worker in a hive is exploded, and it is often that there are many engaged in it; and while it is difficult, it is not utterly impossible; yet you can manage to have the queen introduced.

"What would you do with a laying-worker colony?"

Dr. Miller—I would break it up, because you don't have laying workers until they have been a long time queenless and nothing but old bees. I would break it up and distribute the bees to other colonies.

Mr. Riker—Sometimes we have colonies of young bees that become queenless and they have laying workers. My method of subsiding that is to introduce a fertile queen in a cage for ten, twelve or fifteen days in that colony, and then liberate her, and everything is all right.

Mr. Whitney—Mr. Riker's experience has been mine. I found a colony with laying workers; I introduced a queen and inside of 48 hours everything was all right.

Mr. Blunk—Was she caged?

Mr. Whitney—I introduced her just as I would introduce a queen to any colony. I had some misgivings, as I expected they would kill her, but they didn't.

Mr. Dadant—I would suggest, if you have a valuable queen, not to introduce her to a queenless colony. If you have a queen to spare, and she is good, introduce her to a colony where the queen is not very valuable; and if you have a queen and you don't care whether she is killed or not, introduce her into the colony with drone-laying workers; by introducing her you will lose half of the time, and if you lose her, well, there is nothing much lost.

Mr. Whitney—That's just what I think. Change the queen, take out a poor one, and put in a good one.

Mr. Hintz—In my experience, I had two about two or three years ago that were queenless, and the most successful way I found was to take away the hatching brood and the laying workers will disappear. Six times out of a dozen you won't succeed, but you take a frame of workers or hatching brood

and they almost always will, as soon as hatched out, accept a queen within 48 hours.

Mr. Green—I had a little experience last spring, different from anything I have run across in the bee-books. In consequence I got a good colony. The colony lost its queen. I went through the colony, clipped the queen just before swarming, and I think I clipped a virgin queen. I introduced a frame of brood and they started queen-cells, and I selected a good one, and soon after that I found laying workers and eggs scattered all over. I read so much about layer workers—that you couldn't do anything with a colony of that sort. The queen had hatched, and I concluded they had destroyed that queen and consequently broke up the colony and distributed, and after going too far in that process I found a good queen in that colony. They had gone right on and reared their young queen from brood, and all that time they had laying workers laying as fast as they could lay.

Mr. Swift—I would like to know whether, when you break up the colonies and introduce them into their hives, you will introduce the laying workers in those hives?

Mr. Hintz—In that one colony of mine I put eggs and larvae, and they wouldn't start a queen-cell; but as the young bees were hatching, they accepted a queen in 48 hours.

Dr. Miller—Answering the question asked, I think you will find that if you distribute to other colonies the bees that have laying workers, that you will distribute the laying workers, but they will go into another colony with a good queen; their occupation is gone.

SEVERAL QUESTIONS AND ANSWERS.

"When should a queen begin laying in order to have colony in shape for the honey-flow by June 10?"

Dr. Miller—Whenever good weather comes.

"Will a queen that has been a good one through the season, but commenced laying drone-eggs in worker-cells, be all right next spring?"

Dr. Miller—No.

RIPENING HONEY.

"Should all comb honey be ripened after taking from hive?"

Dr. Miller—No.

"How long before putting in cases would you consider the proper time for the same?"

Dr. Miller—That depends. All comb honey should not be ripened, because if ripe enough it doesn't need any ripening, and if it isn't, as to the time, depends on the time needed. As a general rule, when honey is sealed it is ripened, but not always. There is no law you can put down to it.

Mr. Hogge—How am I to know when I take it off that it is ripe? I had some experience the past summer with comb honey. I found some of my honey, after four weeks taken off, that was dripping—looked like sweat. I thought the honey looked as if it was perfectly sealed.

Dr. Miller—Take the ripest honey you can get, the best honey in the world, all perfectly sealed, put in a place where it has a chance to attract moisture and leave it there long enough, and it will leak through the combs.

Mr. Hogge—There was other honey right with it that didn't do it.

Dr. Miller—The probability is some of the honey was less ripe than the other. Allow me to step just to one side of the question a little. None of it ought to have been allowed to become thin. The place was unfavorable to evaporation, and it was favorable to the attraction of moisture. The best honey that was there was probably hurt a little by being there, but the thinnest of it would weep through the cells. Although honey may be taken from the hives so ripe that it doesn't need any more ripening, I should, if possible, put it in a place where it would ripen more, and if you put it in a warm, dry place it will be constantly getting a little thicker and better.

Mr. Dean—We used to have some difficulty with our comb honey in Pennsylvania when we kept the Italian bees. We had some Italians and blacks. The honey from the Italians was sealed directly on the honey. The honey would swell a trifle, seem to sweat, and there would be a bubble of water on it, while honey from the blacks, in the same place, wouldn't do that. We discarded the Italians entirely. I think that was the trouble perhaps with this gentleman's honey. When the bees cap it directly on the honey it has no chance to expand, and the consequence is it seems to force water.

Dr. Miller—It is true, there is a difference, as has been suggested in that fact. I have had Italians that would do that very thing. They fill up the honey too close to the capping. The blacks I had were a great deal worse than any Italians I ever had. As a rule the blacks will produce better looking honey.

Mr. Dean—I wouldn't be sure but what I got those Italians from Dr. Miller!

Mr. Hogge—It was my fault, and not the fault of the bees. I had some honey that came off of the very same hive, and it did not act that way.

SWEET CLOVER HONEY.

Pres. York—"How many have found that people are prejudiced against sweet clover honey?"

Six raised the hand.

"Is there any way to remedy such flavor?"

Mr. Hintz—Does that mean comb or extracted? If comb, it wasn't well ripened. I never had that trouble.

Mr. Chapman—I asked that question, and I never extracted any honey that wasn't sealed. I took it the second week in September when it was perfectly ripe, and any that lacked sealing I put down for the bees, and I have still had people object; I myself object to the sweet clover as being rank.

Mr. Hintz—My experience is that if sweet clover honey is entirely sealed over, and a long time in the hive, it doesn't taste rank.

Mr. Mooney—My honey in the early part of the season doesn't taste like what I get later. The early-flow honey taken away doesn't have the chance to ripen as it should, and I know that mine was strictly sweet clover honey in the fall.

Mr. Chapman—The honey wasn't taken until the first or second week in September, and I ripened it. I have since moved my location, and have honey from asters and I have none of that trouble.

Mr. Hintz—Mine has never given me any trouble when properly ripened.

Mr. Whitney—Was that honey, when you extracted it, thick or thin?

Mr. Chapman—Good, thick honey; five gallons will weigh 60 pounds. I call that thick honey.

Mr. Purple—In my locality I get nothing but straight sweet clover honey, mixed in August with burdock, and I notice that the honey we get first after blossoming is our best honey. Just the time the sweet clover is in blossom is the best. As the season advances it gets stronger. I extracted July 14, but I never extract until it is all sealed over, and the first extracting is always the whiter.

Mr. Chapman—Isn't that mixed with white clover? When the honey is thus mixed—in my present location I get it that way—it is the finest. When I had the pure sweet clover nearly every one objected to the flavor.

Mr. Purple—The latter part of July the white clover is all gone, even burdock. Then it comes in nearly white, and it is as nice a honey as I get during the season in the middle of the flow.

Mr. Chapman—Ever have any objection to it?

Mr. Purple—I have customers who don't ask for any better honey than that honey. They will go to the market and buy samples of honey, and it is good honey, but still they would rather have the sweet clover honey than have that.

HONEY TAKING COLOR FROM DARK COMBS.

"Is honey darkened by putting into dark combs by the bees?"

Mr. Riker—That is one thing that I have seen and read considerable about, and I have tested it in every possible way, and find that it will take color from the comb. Water put in such comb will pick up the dark color, but honey will not. I never have been able to discover that the honey would take any coloring of the dark comb. One time, at the State Fair of Iowa, a gentleman made a remark that dark comb made dark-colored honey. I told him that was opposite to my experience. I never noticed anything of that kind. It is the fact, he said. I looked about. He had some bees there in a little glass box, and comb, and I discovered that the comb was black, but there was a little white honey around the edge and it appeared to me that that was white honey. I asked him if he would permit me to take some of the honey out of the blackest comb and a little honey out of the whitest comb, to compare with each other. He took the dark comb and put a sample of the honey on a piece of paper, while I took the whitest and put it on a piece of paper, and put it by the side of the dark. We then presented it to the crowd standing by for them to judge. Every person decided that the honey I took out of the black comb was the whitest. I took a little advantage of the old gentleman when I took the honey out, as I spread it thin on the white paper. When he took it out of his comb and put it on he left it perhaps twice the thickness of the paper. After they had all decided mine was the whitest I told them it was the same honey. Then I showed them and the old gentleman how I had taken advantage of him, that the honey

that I put on I spread out more than he did his; but when I came to spread his down to the same depth as mine, they couldn't tell which was which. I have tested it. I have tried every which way, to see if black comb will color the honey. It will color water but not honey.

Dr. Miller—I wouldn't like to take either side of that, for I want to get out of this crowd alive. There are different views. There are some who say that black comb will yield honey just exactly the same as that in virgin comb, and yet there is this that is difficult to answer. Mr. Ricker knows black comb will be colored, and most of you who have had combs out in the rain, and left them out all night, when shaken out will notice it looks like ink. I saw an explanation of that the other day. I can't recall where I did see it. I am not sure but what it was at the Buffalo convention. Some one said honey is not watery, it is oily; that, therefore, the black coloring-matter cannot come into the honey because of its oiliness. We know pretty well, at least in my locality, that water is not oily, and honey and water will mingle together. There are those who make a business of exhibiting very fine, white honey, taking it from virgin comb, and they claim they had whiter honey by doing that.

Mr. Chapman—I made an engagement with a man who produces a great deal of honey to meet and determine that question. There was over a ton of honey produced in brood-combs, which had never been used for other purposes than breeding, and the first extracting was very slightly discolored, but the subsequent extracting was just as good as that in the new combs. We tried the experiment of filling the combs with rain-water, and found that the cocoons absorbed the water and allowed the material deposited to come through into the water, and into the cell, but honey didn't soak into the cocoon, and the first that was extracted was slightly discolored. You would have to have a great quantity in order to notice the coloring at all.

(Continued next week.)

Contributed Articles.

No. 6.—Bee-Keeping for Women.

Things Learned Only by Experience—Robber-Bees.

BY EMMA M. WILSON.

THERE are some things in bee-keeping that can be fully learned only by experience. Among these is the danger from robber-bees. No matter how much the beginner may be told about the danger, she will go on in blissful freedom from anxiety until she has one serious case of robbing, and then she will know what robbing is as no book or bee-paper can tell her; and after that she will always be on the alert.

During the time of a good honey-flow there is little danger in that direction. Honey may be left standing exposed for some time without causing any trouble; the bees pay no attention to it. They can get all the nectar they want from the field. But in early spring, or at any time during the season when there is not abundant nectar coming in, look out for robbers. There is danger. My, what a commotion a bit of honey carelessly dropped at such a time will cause! It would seem as if the bees had gone crazy. The apiary that a little time before seemed all peace and quietude is suddenly changed into a howling mob of angry, stinging bees. It would seem as if the entire apiary were engaged in the uproar, when in reality there may be only one or two colonies engaged in robbing. But it affects the whole apiary, for when that bit of honey is gone the robbers set out in quest of more spoils, and every hive in the apiary is likely to be tried. Every colony is alert and on the defensive. If any are weak or poorly protected look out for them. If the robbers seem to be getting the better of them, stop up all cracks where a bee can get through, and close the entrance, leaving only room for one or two bees to pass at a time. Then throw an armful of hay or straw over the entrance and soak thoroughly with water. That will dampen the ardor of the robbers, as they do not like to crawl through the wet hay, and they will most likely give up the fight. Under no

consideration open any hive at such a time, for the robbers will be ready to pounce in if you do.

You can very easily start robbing working with the bees without leaving any honey exposed, when there is a dearth of honey. If you are inexperienced they can get quite a start before you realize that they are robbers. If on opening a hive you see some bees flying with quick, darting motions, trying to get in; or if you see a bee alight on a comb, and it is promptly seized by one or more of the bees of the colony, you may be sure they are not honest bees; and if at the same time the bees of the colony you are working at are angry and excited, stinging without apparent provocation, you may be sure robbers are at work, and you would better close up operations, no matter how anxious you are to work. The only safe way to work at such a time is under a tent, where no outside bee can get in its work. Sometimes, by leaving the apiary undisturbed for a few hours, things will quiet down and you can go to work again. But you must be on the alert, and at the first sign of robbers you must be ready to close up promptly.

If a frame of brood or any honey has been left exposed, and the bees have got started on it, do not take it away from them and leave nothing in its place. If you do they will probably pounce upon the nearest hive and there will be a royal battle. You can take it away and put a comb without any honey in its place, or one that has a very little in it. That will satisfy them.

Dr. Miller often tells me that I am not as afraid of robber-bees as I should be. We have never had a very bad case of robbing, at least none that ended very seriously. The most we have suffered from robbing is having weak colonies robbed out in the spring. But they have got started enough a number of times to show what they might have done if we had not been able to control them.

A year or two ago Dr. Miller was called up in the middle of the night, and asked if he would not come and straighten up a man's bees. The man lived some six miles away. It was his hired man that came for Dr. Miller. He said that several hives had been knocked over, and the man had been so badly stung that he had had to go to bed, and send for the doctor, and there was no one else that could touch the bees. Dr. Miller told him that he could not do anything until daylight, but that he would come early in the morning.

I assure you it was a scene of desolation that we looked upon when we reached that apiary the next morning. He had quite a little apiary, had kept bees for years, but I imagine he had never had such an experience before. He had tied a young calf, with a rope long enough to reach the bees, to an apple-tree near the apiary. The bees stung the calf, and the calf commenced a mad race among the hives, as far as the rope would allow him to go, overturning hive after hive. In some cases the combs had been thrown entirely out of the hives, and it looked as if the calf, in its mad career, had run over them several times. Broken brood-combs filled with nice brood, combs of honey, bees and sections, were in a sad mix-up, and the bees were fast waking up to the fact that there was plunder to be had.

We straightened things up as best we could; got the hives back on their stands, and whenever it was possible we tied the brood or honey into the frames that were left whole; put the bees back into the hives where we thought they belonged, etc. Fortunately there was not much honey in the sections, so that simplified that part of it somewhat, but it was a little the worst wreck I had ever had anything to do with.

I think that man has had his lesson. I do not believe he will ever tie any animal near his apiary again. But it was expensive.

McHenry Co., Ill.



Bleaching Combs to Make the Honey White—Bees Don't Hear.

BY C. P. DADANT.

ON page 52, a Mr. Krause proposes to bleach the combs of the extracting-cases in order to secure white honey, and suggests a weak solution of sulphuric acid for that purpose.

In the first place, I am not fully satisfied that the dark combs always give a color to the honey. We have been in the habit of extracting our honey for some 32 years, and the readers all know that we have been the champions of the special system of extracting all the honey. Yet we have harvested just as white honey as any one else ever did, when the nectar in the fields was white. We have used old combs. In fact we are still using combs which were built by bees in 1870, and we much prefer these to others, because the bees

seem to have strengthened them season after season by rebuilding the damaged cells. Yet I wouldn't like to set myself up against the numerous testimonials which say that honey is colored by being stored in old combs, but I hold that this coloring is exceedingly slight, and that in the instances where people claim that its color has been very perceptibly deeper the fault has lain more with an inaccurate examination. The bees do not separate their different grades of honey when harvested at the same time; but some colonies do get lighter honey than some other colonies, probably because their fields are different. For instance, I have seen some colonies harvest honey-dew when colonies adjoining them did not get a drop of this, their labors taking them to other crops.

Now, taking for granted that this coloring of the honey is a fact, and we have tried to remedy it, the most active agent in this change of color would be the yellow coloring matter which the bees seem to gather so plentifully when harvesting yellow pollen in the fall. This, in my opinion, is caused by the deeply colored pollen, and is so powerful as a dye that it is difficult to get rid of it. Wax-bleachers are well acquainted with it, and say that this is one of the most obstinate colors they have met. It seems to stay with the beeswax, and often will not allow it to bleach, but will remain in it. Acids have no effect upon it. This we know by our own experience, and we find that the red beeswax, which is produced in countries where these fall blossoms are found, still remains a deep yellow after purifying. Sun-bleaching changes this deep yellow to a paler shade, which never becomes quite white. If this is the coloring-matter which darkens the honey, it is useless to expect to get rid of it except by melting up the combs.

Now to come to the proposed process of soaking the combs in a solution. Even if we were to expect a decided change in the color of these combs by the use of a solution, it would be unadvisable to use it because it would be sure to leave a smell that would be objectionable to the bees, and very probably also a taste which would damage the honey more than the slight amount of coloring-matter which it was sought to remove.

Now as to combs blackened by brood-rearing. The only way in which these combs could color the honey would be if the latter was so thin that its presence in the cells would liquefy or dilute the hard substances which have gone towards making this dark color. Otherwise there is no possibility of a change in color. If the soaking of the combs in a solution of sulphuric acid were resorted to, the result would be a dissolving, by the action of the acid, of all the cast-skins of the bee-larvæ, and of all the refuse that colors these combs; but, as this exists in large quantities in old combs, there would be a very large amount of residue, and unless the cells could be washed clean afterwards, by repeated drenching, it seems to me that there would still be enough coloring-matter remaining to stain the honey. It is out of the question to make a dark comb white, short of melting it up in the rendering kettle.

If the extracting-combs are removed shortly after the crop, and put away till the following season, and if they are put upon the hives only a few days before they will be needed for storing the crop, there seems very little chance of their getting much stain. Of course they will get some color; this is unavoidable. But what percent of extracted honey is produced in new combs? Undoubtedly a very small quantity. And if there is any very light-colored honey produced with the extractor, it is evident to me that in many instances, at least, old combs have been used without injury to the color of the honey.

BEES DO NOT HEAR.

On page 62, A. H. Homersham (a quotation from British Bee Journal) says that he has proven to his own satisfaction that bees cannot hear. Well, we have all made those tests ourselves. There is probably hardly a bee-keeper who has not tried shouting when next to a hive of bees. But on these questions Cheshire says:

"Should some alien being watch humanity during a thunder-storm, he might quite similarly decide that thunder was to us inaudible. Clap might follow clap without securing any external sign of recognition; yet let a little child with tiny voice but shriek for help, and all would at once be awakened to activity."

We might add also that as the bees emit different sounds at different times, there is very likely some response to these. The only thing that we can knowingly assert is that there is no response to whatever noise we may make, whenever this noise does not act as a disturbing element. Thus, as far as we are concerned, the bees do not hear.

Does Getting Bees Started in the Brood-Nest Seriously Interfere with Storing in the Supers?

BY G. M. DOOLITTLE.

A venerable tradition has come down to us, that allowing bees to get started storing in the brood-nest seriously interferes with their storing in supers. I have bowed to that idol long enough, and now stand up to say I don't believe there's a word of truth in it. So there, now!—Dr. C. C. MILLER.

I am half inclined to think the Doctor is right. If there is a supporter of that "venerable tradition," let him speak out.—E. R. ROOT.

By the time the surplus season begins (10th to 15th of June in this locality), the brood-combs will usually be exhausted of stores, or nearly so, and no work can be expected in the sections until these are filled to their utmost capacity; and the amount of the choicest honey of the season required for this purpose would be an important item if secured in the sections.—H. R. BOARDMAN.

But the persistence with which they (the bees) continue to store in the brood-combs at this time, is often disappointing.—H. R. BOARDMAN.

The above are some items which appeared in print some time ago, and I have been waiting ever since to see if someone was not going to say something further in the matter, but so far this is all that has come to my notice as especially bearing on the subject. It would have been very interesting, indeed, to have had Dr. Miller give us the reasons he had for saying that he did not believe there was a word of truth in the doctrine as taught during the past, that if bees once got thoroughly started at storing honey in the brood-nest it would seriously interfere with their storing in sections. But I have not seen a single reason given by him in support of his disbelief.

And it would have been equally interesting had Mr. Root told us what he had run across in his bee-keeping experience which led him to be half inclined to think the Doctor was right in making such a sweeping exclamation against something which hundreds of bee-keepers believe they had proven true. But Mr. Root does not give us even a little bit of experience in support of his half truth.

Mr. Boardman, on the contrary, tells us something which hundreds and thousands of bee-keepers have noticed, doing the same without even hinting at the unbelief of Dr. Miller, or the skepticism of Mr. Root, and probably wrote what he did without a thought that he was running counter to what those gentlemen believe. Were I asked which of the three was right, I should have to decide with Mr. Boardman, for all of my experience of over 30 years arrays itself on his side, and I cannot doubt my own experience.

When I commenced to keep bees I adopted the 12-frame Gallup hive, and thought that hardly large enough, as the colonies of bees that lived through at that time, year after year, were always the ones in very large box-hives, the colonies in the smaller box-hives being lost in winter more frequently than otherwise. Everything worked well so long as it was increase I desired more than surplus honey, but with the desire for surplus honey came the fact that I had the most of it stored in three or four combs occupying each end of the hive, these eight combs often containing from 40 to 50 pounds of the very choicest of honey, just as Mr. Boardman says is the case with him. Then, after these eight combs were nearly or quite filled with honey, the bees instead of entering the sections, would, as Mr. Boardman says, persistently continue to store in the other four brood-combs, instead of taking to the sections, until, at the end of the honey harvest, if it continues long enough, the colonies in such hives would be very small in numbers, the combs crowded with honey, and very little in the sections for Doolittle.

As soon as I saw where the real trouble lay, I reduced all of these 12-frame to those holding 9 frames, then worked these hives so that each of the nine frames were solid with brood when the honey harvest commenced, upon which the bees would immediately enter into the sections with their honey (as they had nowhere else to put it), when I had something which gave me from double to three times the yield of nice, salable honey that I had ever had before. Yes, and I used dummies in a part of these hives, too, for any colonies that did not give a prospect of filling the nine frames full of brood by the time the honey harvest was on, were confined to the number of combs that would be fully occupied with brood, even though that number was as few as five or six. The older readers of the American Bee Journal will remember my writing several articles on "those six-frame hives," telling how they were worked, and how, in 1877, I secured the unparalleled average yield of 166 $\frac{2}{3}$ pounds per colony from the whole apiary, nearly all of which was nice, marketable honey.

And then to have Dr. Miller stand up and say that he

doesn't believe there is a word of truth in it (not in the yield of honey, but in the plan), seems strange to me. Will he kindly tell the readers of the American Bee Journal the reasons he has for his unbelief, or give them a better plan, if he has one. I am very anxious to learn, and if there is a better way than the one I have been following I would gladly follow it. And if it is better, the giving of it will be a blessing to the giver, and also a blessing to the bee-keeping world. Onondaga Co., N. Y.



Fertilization of Fruit-Bloom by Bees.

BY DR. C. C. MILLER.

ON page 280, Mr. Thaddeus Smith makes an assertion that is entitled to consideration, to the effect that he thinks bees are not needed on certain islands to fertilize fruit-blossoms, and then asks: "If not necessary on these islands, why should they be anywhere?"

Mr. Smith found a small number of "nectar-loving insects" present, and it is possible that they could do all the fertilizing that was needed, while in other places the number of such insects may have been less, so that there would not be enough of them to do such fertilizing without the aid of the bees.

The testimony of Mr. Smith should be given all the weight to which it is entitled, but he should remember that testimony has been given on the other side that is equally entitled to consideration. That testimony has been given by many—some of them experts with no possible bias in favor of the bees, men of ability on both sides of the ocean—and however honest in his opinion, he should hardly ask us to throw to the winds the testimony of a number of men supposed to be competent and trustworthy, just because the testimony of one man is different.

The following item appeared in the American Agriculturist of Feb. 15, as a reply from the extensive greenhouse man, W. W. Rawson:

How many colonies of bees do you keep in your house 300 by 40 feet when cucumbers are fruiting? "Usually four colonies are required for a single house, and they are put in just before the blossoms begin to open, so that they are ready for work as soon as the flowers are ready to receive them. Early in April the old colonies are taken out and new ones put in. We contract for our bees at \$5.00 per colony and use about 50 colonies each season. We usually lose about one-half the colonies, even after the most careful attention is given them. Many of them get out of the house through the ventilators, and are unable to return. Many others lose their lives in the house and various places; but we find it absolutely necessary to keep the house well stocked to insure fertilization and thus good fruit."

It will be seen that it costs at least \$125 a year to have these bees as fertilizers. Does Mr. Smith think it at all likely that this expense would be endured each year if the bees were not needed as fertilizers? McHenry Co., Ill.

* The Afterthought. *

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

NO PROGRAM FOR BEE-FEVER PEOPLE.

Very true, very true; two men afflicted with bee-fever do not need any program when they meet, and couldn't possibly be made to follow one if somebody should make it. Same of a live convention, I suspect. But when Dr. Miller swung on the ball the next time he didn't do quite so well. Went out on a "fly," as it were, seeing he couldn't go out on a bee. To the conundrum "What's the best honey?" he just said, "The bees' honey." The correct answer is "The bridegroom's." Page 213.—[Of course it's none of our business, but we'd like to know how Mr. Hasty knows. We believe he has never "dared" to be a bridegroom.—EDITOR.]

SWEET CLOVER HONEY.

Sweet clover 12; white clover 8; alfalfa 3; orange 2; basswood 1; California sage 1; buckwheat 0; sweet clover mixtures 3. The commanding lead of sweet clover honey at the Chicago convention surprises me. I had supposed the apicultural world was settling down into the belief that sweet clover honey had a bad flavor. Can well accept the

correction that extracted too soon, and not properly ripened, is the real trouble—that is, for the most part. Perhaps I can add one more important consideration. Almost any nectar which has a decided flavor is liable to be dreadfully over-flavored *when the yield is very scant*. Nature seems to pour in her little spoonful of flavoring extract without much regard to whether she is pouring into a gill or into a barrel; and in the former case she made a bad mess of it. Apple honey has a reputation for being bitter from this cause. Sweet clover in many regions is rather more liable to scant yield than are most of the flowers we look to for honey. Page 213.

THAT "STEAM BOTTOM-BOARD."

It occurred to me that Mr. Dupret failed to indicate to us where the steam should be turned on to run all these little parts and items of his steam bottom-board. But then critics are liable to get over-critical a great many times. Page 214.

GETTING EXCITED BEES OUT OF A CELLAR.

The experience of C. Davenport in getting an awful stack of excited bees out of a too contracted cellar makes an instructive anti-climax to the experiences of Dr. Miller. Surely circumstances alter cases. Perhaps some who never had any such troubles think they could have weathered the situation all right. Old maid thinks she could have made an angel out of the "enfant terrible." Every one could have managed the bad wife save the poor fellow that had her. Editors could always succeed at farming, and farmers always succeed at editing. But don't ask me to succeed at Mr. Davenport's job. My advice to the young brethren is: Don't get into any such a scrape in the first place. Pages 215-217.

BEES PERISHING WHILE "CLEANING HOUSE."

So two bee-brothers came to an agreement that quite a lot of bees perish by "cleaning house" while in the cellar. It stands to reason that the bee which tumbles to the floor with a dead bee it is dragging off is not likely to get back again. Outdoors they frequently fly off with the dead; but I don't think they would try that in the darkness of a cellar. A fence half an inch high terminating the exposed edges of the bottom-board would make it impracticable to drag the dead any further. And the fences could be made of strips of tin, or even of stiff paper. But, let me see, bees even at two dollars a pound would be 22 for a cent; and I am not sure you could not save enough to earn wages while erecting your fences. Page 221.

EXPOSED BROOD AND ROBBING.

As to page 222, I have my doubts whether setting out a frame of brood for a few minutes would incite robbing any worse than setting out an adjoining frame from the same hive with no brood in it. If, in mending combs or transferring, you scatter small chunks of mangled brood on the ground and leave them there, the consequences may make you think that brood is specially "bad medicine" for robbing.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Fumigating Brood-Combs.

The past winter was a hard one on bees. I am 10 colonies short, all last year's swarms, and I have 80 frames of nice, white comb, and want to keep them from the moth. I have had lots of trouble in keeping them clean.

I now have a nice house, 12 by 18 feet, for a honey-house and a workshop, full 8-foot story, with floor above and room to store odd stuff. Now I have some 1-inch square pieces, 18 feet long; if I were to nail these to the under side of the upper joists and hang the frames up there, could I fumigate them with brimstone, or something that would kill moths, eggs and all?

I have a little honey on hand, all in tight shipping-

cases. Would that be hurt by the fumigating? Tell me all you know on this line.

The rest of my bees seem strong and in good shape. Last summer I ran out of hives, and put 7 swarms in cracker-boxes, with frames and starters; then I sent for 5 hives, and in the latter part of the season I lifted out the bees, frames and all, and put them in the new hives, all in good shape. The 2 left in the cracker-boxes came through all right. The boxes were on bricks facing the south, and covered nearly all over with snow for some time. The box is only $\frac{3}{8}$ inch thick, with $1\frac{1}{2}$ inch space at each end, and covered over bees, with $\frac{1}{2}$ inch space above the frames.

ILLINOIS.

ANSWER.—Brimstone will do no good whatever in killing the eggs of the moths. It will only kill the larvae, and will not make the very best work at that after the larvae have attained full size. If you put the frames in a small space, and brimstone them very heavily, you might succeed in killing the larvae, but it would take another fumigation after all the eggs were hatched. In so large a room as you have you would hardly make a complete job of it with the frames hanging at the top of the room. No harm, however, would come to the honey in the cases.

You will do better with bisulphide of carbon. That will kill eggs and all. Read up about it in back numbers of this journal, especially in the report of the Buffalo convention. Make two piles of your combs, putting them in hive-bodies, five in a pile; set an empty hive-body on top, and set in it a saucer containing bisulphide of carbon; cover up tight, and leave covered 24 hours. But don't bring a light near it to blow you up.

Perhaps it may be as well, or better, to let the bees attend to the job. Put a hiveful of the combs under a strong colony, and you may feel sure the bees will clean them out and keep them clean.

Making Increase by Dividing.

Is it time for me to jog your memory (as you suggested) so that you would give me a plan for making increase by dividing, or artificial swarming, in the American Bee Journal?

Will there be time enough if I get a queen in June, to make some nuclei and give them cells from the new queen? How shall I go to work to do it?

I wish I lived near some one that made it a business to keep bees, but as a rule my neighbors know less than I do. One old farmer told me the drone-bees laid the eggs for the swarms. Did you ever see such ignorance?

We are having a cold April—a great deal of rain—but hope soon for spring weather. CONNECTICUT.

ANSWER.—Let me answer your questions without taking them in their exact order. Although too early yet in your locality to take any active steps toward artificial increase, it is none too early to study up plans with regard to it.

If you get a queen in June, there will be plenty of time for you to make colonies queened by her royal progeny. There are different ways of proceeding. I'll give one that I think appropriate for those with only a few colonies:

The first thing is to get your new queen in a strong colony. If the colony is not very strong when she is first introduced (and it is usually a little easier to introduce into a colony not too strong), you can strengthen it by drawing from others. A frame of brood, as nearly as possible all sealed, will in a short time add considerably to the strength of the colony. Indeed, a comb may be so well filled with brood that four of them, when the brood has all hatched out, will make 20,000 bees—not a bad colony. Be sure never to give more brood than the bees can cover; that would be a waste. You may, however, give more than the bees can cover, if, with the brood, you take the adhering bees. But if you put in too large a proportion of strange bees there is danger that the queen may be attacked. If there are three frames of brood already well covered by bees in the hive, there is probably no danger in introducing a fourth frame with bees from another colony. But it might not be safe to introduce two frames from another colony, for that would make too strong a proportion of strange bees. If you add more than one frame of bees, it is safer to take them from different colonies. If you use bees that have been queenless 48 hours or more, you may have little anxiety about adding any number. These remarks apply to strengthening either nuclei or full colonies by taking brood or bees, or both, from other colonies. Remember that it is safer to use queenless

bees when convenient, although there is little danger in taking from colonies with queens if you do not take too large a proportion from any one colony. The safer way, if not to slow, is to take brood without bees. I may say, however, that in my own practice it is rarely the case that I take brood without bees, and the few exceptions are generally because I cannot find the queen in the colony from which I take the brood. Of course, the queen must always be found if the bees are taken, otherwise she might be taken with the bees.

If you have the material to spare in other colonies, you may make the colony with your choice queen so strong that it may require two or three stories to hold the frames, or you may do with only one story. The colony will now be made queenless, but at least six days must elapse after giving the last brood to the colony, else you may have queens reared of the wrong stock. Take two frames with the queen and adhering bees, put them in an empty hive and set on a new stand. Nine days after you have made the colony queenless you will form your nuclei. Into each hive put two frames of brood with adhering bees from the queenless colony. There will be some honey in the frames you use, and it will be an additional advantage if you can give each nucleus another frame containing some honey. The bees, being queenless, will not be much inclined to desert their new localities, but you can help matters by plugging up the entrance with green leaves. A day or so later you may open the entrances, and if you happen to forget it no great harm will come, for the green leaves will dry and shrivel so that the bees themselves will open a passage.

If you use up all the material of the queenless colony, as probably you will, there will be nothing left on the old stand. Take the hive that now contains the queen, put it on the old stand (of course you will fill the hive with combs or foundation), and put in its place one of the nuclei.

Nothing has been said about queen-cells. They will be on different parts of the combs, some of them where you want them, but mostly where you do not want them. Cut them out, where wrongly placed, and see that each nucleus has at least one good cell—better have two or more in each nucleus—the cells being between the combs and centrally located, so there is no danger that they will get chilled. You may fasten each cell in place by pinning it on with a slender wire nail or a pin $1\frac{1}{2}$ inches long; and it is still better to fasten it on by means of a staple an inch wide, or wider, making sure that in no case the cavity of the cell shall be punctured.

In two weeks examine each nucleus for young brood or eggs, and if you find none a mature queen-cell may be given, provision for such queen-cells having of course been made in advance. Whenever the young queen is laying, you may build up the nucleus to a full colony in the manner already given.

Comb Honey Wanted Instead of Increase—Buying Hybrid Bees—Foundation in Sections.

I have 17 colonies of bees, 11 of which I think contain 3 or 4 frames of brood now, the remaining 6 being weaker.

I have intended following the plan Mr. Doolittle outlined in his book on "Scientific Queen-Rearing," of stimulating brood-rearing by reversing the brood and supplying them with honey inside the brood-nest. My object is to secure as much comb honey this summer as possible, instead of making an increase.

1. When would you advise me to begin active operations here, where our main honey-flow is from sweet clover, although we have some white clover?

2. Would it be possible for me to build up all of these colonies by equalizing the brood in the manner you described in the last number of the American Bee Journal, or would it be good to follow Mr. Doolittle's plan of uniting the weak colonies, by which I understand that I would have 3 less colonies for the production of surplus, 3 of them forming nuclei.

3. Under these circumstances, if I should buy bees, would it be best to buy full colonies, or nuclei? That is, would I be able to build up nuclei purchased now, so that they would produce surplus this season?

4. I notice an advertisement in the Bee Journal of hybrid bees for sale. Would it be well to purchase such bees, or would they be objectionable for some reason?

5. Will you please tell me what amount of foundation you use in section-boxes? It should not extend entirely from the top to the bottom of the box, should it?

ILLINOIS.

ANSWERS.—1. So far as the season of the year is con-

cerned, there is little danger that you will begin too soon, but there is danger that you may begin before the bees are strong enough to be meddled with. Take a colony that has no more bees than just enough to keep warm what brood it has, put a frame of honey between two of its frames of brood, and you will have a lot of chilled brood. So don't begin until you have so strong a force of bees that they can take care of more brood than they are already covering. In many cases that will mean not to begin at all, for an ambitious queen under favorable circumstances may keep all the cells supplied with eggs that the bees can care for.

2. I don't know, for I am not sure from what you say how strong yours are. You say your strongest colonies contain three or four frames of brood. If by that you mean there is brood in three or four frames, that's a very uncertain quantity. For it sometimes happens that when there is brood in four frames, the two central frames will each have a patch three to six inches in diameter, while in each outside frame there will be a patch much smaller, the brood in all four not being as much as one frame would easily contain. If, however, you have three or four frames well filled with brood, say three-fourths full each, then there ought to be no trouble in bringing all up to full strength for the sweet clover, and perhaps for the white clover. At any rate, if you follow the instructions on page 266, you will do nothing with the weakest till all the others are strong; and if you find that crowds too hard on the time of harvest you need not do anything at strengthening the weakest.

3. I don't know. It depends on the strength of your colonies, and the strength and number of the nuclei bought. If honey is your object, perhaps you will do as well with what you have.

4. Hybrid bees are often objectionable on account of their tempers. But they may be good workers, and it is not hard to change them to Italians; at least you need not increase from them, and then you will not be getting any more on your hands.

5. The top starter is $3\frac{3}{4}$ inches wide and $3\frac{1}{4}$ inches deep. The bottom starter is $3\frac{3}{4}$ wide and $\frac{3}{4}$ deep. That makes the starter extend clear to the bottom, of course, but there is a space of something like $\frac{1}{4}$ inch between the two starters. About the first thing the bees do in the section is to fasten the two starters together.

Introducing Queens.

As I have received queen-bees from a large number of different queen-breeders in the last 15 years, also this spring, I should like to ask in regard to one I received a few days ago. When the queen was shipped he also dropped a card requesting me to kill all escort bees.

1. Why would he advise me to kill the bees? Do you think he has any bee-disease in his apiary?

2. If removing the bees is any advantage, at what time should they be removed? When you put the cage in the hive, or when you remove the plug in the cage?

WISCONSIN.

ANSWERS.—1. It is not likely that he instructed you to kill the escort bees because they were diseased. A man dishonest enough to send diseased bees would be dishonest enough to keep quiet about it. The probability is that he believed that the presence of strange worker-bees would hinder the cordial reception of the queen; and it is quite possible his belief is correct. The deportment of the queen herself has something to do with her reception, and she may not be so ready to make friends with strange bees so long as some of her own daughters are at her side. Besides, the bees of the queenless colony might have some animosity to the strange workers, which would make them less friendly to the queen. In most cases, however, the queen will be received kindly without her escort being killed.

2. If the escort is to be killed, it should be done before the cage is put in the hive at all.

Why Not Help a Little—both your neighbor bee-keepers and the old American Bee Journal—by sending to us the names and addresses of such as you may know do not now get this journal? We will be glad to send them sample copies, so that they may become acquainted with the paper, and subscribe for it, thus putting themselves in the line of success with bees. Perhaps you can get them to subscribe, send in their dollars, and secure for your trouble some of the premiums we are constantly offering as rewards for such effort.

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY
144 & 146 Erie St., Chicago, Ill.

Entered at the Post-Office at Chicago as Second-Class Mail-Matter.

EDITOR—George W. York.
DEPT. EDITORS.—Dr. C. C. Miller, E. E. Hasty.
SPECIAL CORRESPONDENTS—G. M. Doolittle,
Prof. A. J. Cook, C. P. Dadant,
R. C. Aikin, F. Greiner, Emma M. Wilson,
A. Getaz, and others.

IMPORTANT NOTICES.

The Subscription Price of this Journal is \$1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec01" on your label shows that it is paid to the end of December, 1901.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

National Bee-Keepers' Association

OBJECTS:

To promote and protect the interests of its members.

To prevent the adulteration of honey.

To prosecute dishonest honey-dealers.

BOARD OF DIRECTORS.

E. WHITCOMB,	THOMAS G. NEWMAN
W. Z. HUTCHINSON,	G. M. DOOLITTLE,
A. I. ROOT,	W. F. MARKS,
R. C. AIKIN,	J. M. HAMBAUGH,
P. H. ELWOOD,	C. P. DADANT,
E. R. ROOT,	DR. C. C. MILLER.

EXECUTIVE COMMITTEE.

W. Z. HUTCHINSON, President.
OREL L. HERSHISER, Vice-President.
DR. A. B. MASON, Secretary, Toledo, Ohio.

EMERSON T. ABBOTT, General Manager and Treasurer, St. Joseph, Mo.

MEMBERSHIP DUES, \$1.00 a year.

If more convenient, Dues may be sent to the office of the American Bee Journal, when they will be forwarded to Mr. Abbott, who will mail individual receipts.

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.



NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it.

Price, by mail, 6 cents; two for 10 cents; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.

Weekly Budget.

WISCONSIN BEE-KEEPING is the title of Bulletin No. 2, just issued by N. E. France, State Inspector of Apiaries. It contains about 80 pages, and is fully illustrated with pictures of bee-fixtures, Wisconsin apiaries, etc. It is really a pamphlet on practical bee-keeping, by a practical apiarist. This Bulletin is not for sale, but for free distribution among Wisconsin bee-keepers only, of whom there are reported to be over 10,000. For a copy, address Mr. France, Platteville, Wis., who will see that a copy is mailed you—if you live in Wisconsin.

FRANCOIS HUBER—A BLIND DISCOVERER.—One of the most beautiful stories in the world is that of a blind man, his devoted wife, and his faithful servant, who lived in Switzerland in the middle of the eighteenth century. The name of Francois Huber is known to every naturalist; but greater than his work was the man himself, and his life story is worth reading by every young man or woman who to-day wants to make the best out of life.

It did not seem as if Francois Huber could make anything out of life, for, though his father was a scientist, and the boy had the best of teachers, he became practically blind at the age of fifteen. The same disease which



FRANCOIS HUBER.

caused the blindness of Milton attacked him, brought on by much study at night in insufficient light, and by intense application to his books when his health was not equal to the strain. His father, in alarm, took the lad to Paris, where Tronchin, the famous physician, ordered him at once to give up all study and try life on a farm. So Francois Huber went to work like a peasant lad, following the plow. In a short time his health was completely restored; but, alas! his eyesight was not a whit improved, but rather the worse for the experiment. The highest authorities now pronounced the disease incurable, and darkness day by day closed in upon him.

Although so young, Francois had yet a sweetheart, Marie Aimee Lullin, the daughter of a prominent Swiss official. The boy and girl had loved each other from their earliest school days, and, though the father vigorously objected to his daughter's betrothal to a blind man, Marie never faltered in her devotion to Francois. Her father forbade all communication between them, and she obeyed; but, when she came of age, her first act was to marry the man she loved, and the marriage proved ideally happy. The blindness of Francois only drew out the ex-

QUEENS!

Buy them of H. G. QUIRIN, the largest Queen-Breeder in the North.

The A. I. Root Company tell us our stock is extra-fine; Editor York, of the American Bee Journal, says he has good reports from our stock from time to time; while J. L. Gandy, of Humboldt, Nebr., has secured over 400 pounds of honey (mostly comb) from single colonies containing our queens.

We have files of testimonials similar to the above.

Our Breeders originated from the highest-priced, Long-Tongued Red Clover Queens in the United States.

Fine Queens, promptness, and square dealing, have built up our present business, which was established in 1888.

Prices of GOLDEN and LEATHER-COLORED QUEENS, before July 1st:

	1	6	12
Selected, Warranted.....	\$1.00	\$5.00	\$ 9.50
Tested	1.50	8.00	15.00
Selected Tested	2.00	10.50	
Extra Selected Tested, the best that money can buy..	4.00		

We guarantee safe arrival, to any State, continental island, or any European country. Can fill all orders promptly, as we expect to keep 300 to 500 Queens on hand ahead of orders. Special price on 50 or 100. Free Circular. Address all orders to

Quirin the Queen-Breeder,
PARKERTOWN, OHIO.

(Parkertown is a P. O. Money Order office.)
15A26t Please mention the Bee Journal.

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white).....	\$.75	\$1.40	\$3.25	\$6.00
Sweet Clover (yellow)....	.90	1.70	4.00	7.50
Alsike Clover	1.00	1.80	4.25	8.00
White Clover	1.00	1.90	4.50	8.50
Alfalfa Clover80	1.40	3.25	6.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.
144 & 146 Erie Street, CHICAGO, ILL.

Low Rates to Eastern Points

will always apply via the Nickel Plate Road and its Eastern connections to all points in New York, New England, and the Eastern States. Three daily trains to Ft. Wayne, Findlay, Cleveland, Erie, Buffalo, New York and Boston. Standard equipment on all trains. Meals served in dining-cars, on American club plan, at prices to suit passenger, from 35 cents to \$1.00 per meal. For particulars call on or address, John Y. Calahan, General Agent, 111 Adams St., Chicago, Depot, Fifth Ave. and Harrison St. 'Phone Central 2057. 2—18A3t

BEE-SUPPLIES!

ROOT'S GOODS AT ROOT'S PRICES

Everything used by bee-keepers.
POUDER'S HONEY-JARS. Prompt service. Low Freight Rates.
NEW CATALOG FREE.

WALTER S. POUDER.
512 MASS. AVE. INDIANAPOLIS, IND.

quiste devotion and tenderness of his wife's unselfish nature, and when, after 40 years of perfect companionship, she was taken from him, he summed up his loss in one pathetic sentence: "It is only now that I realize that I am blind." She was his reader, his secretary, his helper, and neither the cares of her household nor her children were ever allowed to interfere with her untiring service to his every need.

With her help, Huber began his life work—the study of bees. When we consider what powers of close observation are demanded for this sort of work, we can not at first understand how a man, totally blind, could follow the minutest habits of insects, and make discoveries which the most patient investigators before him had failed in making. But, besides his wife, Huber had a servant, a peasant named Burnens, whom he soon found to be "born with the talent of an observer." With infinite patience, by asking a thousand questions, and repeating each observation over and over again, Huber trained this uneducated man into an accurate investigator, upon whom he could rely. Burnens was deeply attached to his master, and willing to take any trouble to please him.

"It is impossible," Huber says, in his preface to his great book upon the bee, published in 1792, "to form a just idea of the patience and skill with which Burnens has carried out the experiments I am about to describe. He has counted pain and fatigue nothing. If there be any merit in our discoveries, I must share this honor with him; and I have great satisfaction in rendering him this act of public justice."

Huber had other interests outside of his bees. Like them, he was ever at work. He invented a sort of printing machine, by means of which he could write to his absent friends—and no man had more friends, or loved them more loyally. He was passionately fond of music, and could compose as well as execute. He loved to walk in the open air, and had knotted cords stretched beside the rural paths near his house, so that he could walk without troubling any one to lead him. As we read his life, we find it not a darkened one, but one full of light, and affection, and sweet compensation. It was a long one, too, for he died in 1832, at 82, full of years and honors, leaving behind him the memory of a noble and victorious fight against a great affliction, under which most men would have given up hope of achieving anything. His work was great; but the greatest thing about Francois Huber was his character, of which indeed it might be said that it had that

"Equal temper of heroic hearts
Made weak by time and fate, but strong in will
To strive, to seek, to find, and not to yield."
—PRISCILLA LEONARD, in Forward.

Mr. F. GREINER, of Ontario Co., N. Y., wrote us on May 3:

"Our bees have wintered well, although the spring has not been favorable so far."

THE ATTIC APIARY OF REV. W. S. SLY, in his beautiful residence, appears on the first page of this issue. He writes us as follows about it:

Four years ago I built a house, located within 2½ blocks of the Capitol building. Other houses are built on all sides of me. There seemed no way of keeping bees unless I carried out a long-cherished plan of having an attic apiary when I became my own landlord. The high attic—full size of upright and rear wing—is floored, lathed and plastered. A stationary hive was built in a south gable to begin with. An entrance and alighting-board were made of one piece, with side-pieces and wire-screen cover reaching from the hive-entrance through the clapboards.

Purchasing a strong colony in May of the same year, half of the frames with brood and clinging bees were transferred to the new hive, leaving the queen in the old hive, which

To make cows pay, use Sharples Cream Separators. Book Business Dairying & Cat. 212 free. W. Chester, Pa.

Bee-Keepers—Attention!

Do not put your money into New Fangled Bee-Hives, but buy a plain, serviceable and well-made hive, such as the regular Dovetailed hive arranged for bee-way sections. Honey-producers of Colorado—one of the largest honey-producing sections in the world—use this style.

Thousands of Hives, Millions of Sections, ready for Prompt Shipment.

G. B. LEWIS CO., Watertown, Wis.

Let's Get Together.

Do you want a new carriage or buggy, and do not want some dealer to make a big profit at your expense? Order one of our

Split Hickory Vehicles.

Take it from the depot; hitch to it; run it for **Thirty Days**, and if you find it the best rig on the market, pay for it. If not, send it back; we don't want you to keep it. How can we afford to do this? Well you see, we are making the best line of vehicles on the market, and are not afraid to have you pass judgment on them. Full details in our new illustrated catalogue, which we send free. It also shows our fine line of harness.

OHIO CARRIAGE MFG. CO.,
Station 6, Cincinnati, Ohio.



Have You Seen Our Blue Cat-

alog? 60 illustrated pages; describes **EVERYTHING NEEDED IN THE APIARY**. **BEST** goods at the **LOWEST** prices. Alternating hives and Ferguson supers. Sent **FREE**; write for it. Tanks from galv. steel, red cedar, cypress or fir; freight paid; price-list free.



KRETCHMER MFG. CO., box 90, Red Oak, Iowa.

Agencies: Trester Supply Co., Lincoln, Neb.; Shugart & Ouran, Council Bluffs, Iowa; Chas. Spangler, Kentland, Ind. 12E26t

The Business End of the NEW RUMELY SEPARATOR

Like all the "Rumely Goods" this is simply perfection. When coupled to our New Rumely Rear Geared Traction Engine they constitute a threshing outfit that not only makes big money for the thrasher, but saves grain and money for the farmer. They are durable beyond comparison and when you buy them you are done buying for years to come. Take a little time to think about how it would pay you to own such an outfit, then write us for free catalog.

M. RUMELY CO., La Porte, Ind.

Fancy Glassed Comb Honey

Any bee-keepers in New York or Pennsylvania producing either White Clover or Raspberry Fancy Comb Honey (in glassed sections), will find it to their interest to write to the undersigned at once.

GEORGE W. YORK & CO.,
144 & 146 Erie Street, CHICAGO, ILL.

29 YEARS SELLING DIRECT.

We are the largest manufacturers of vehicles and harness in the world selling to consumers, and we have been doing business in this way for 29 years.

WE HAVE NO AGENTS

but ship anywhere for examination guaranteeing safe delivery. You are out nothing if not satisfied. We make 185 styles of vehicles and 65 styles of harness. Our prices represent the cost of material and making, plus one profit. Our large free catalogue shows complete line. Send for it.



No. 391 Buggy. Price, \$69.00. As good as sells for \$25.00 more.



No. 740 Open Stanhope. Has ¾ inch Kelly rubber tires. Price, \$85. As good as sells for \$50 more.

Elkhart Carriage & Harness Manufacturing Co., Elkhart, Ind.

Please mention Bee Journal when writing.

Going for the Doctor

through the storm and darkness while the suffering one at home is in danger, perhaps of death, is a terrible trip. Why not have a good, sure family remedy in the house? One that has proven a life saver in thousands of cases during the last forty years.

Watkins' Vegetable Anodyne Liniment.

Think what a world of terror and anxiety was saved this man.

DISPENSES WITH DOCTORS.

Middle Grove, Illinois, June 4, 1901.
We have used Watkins' Vegetable Anodyne Liniment in severe cases of flatulent colic; have employed veterinary surgeons before, but rely entirely on Watkins' Liniment now, for family use as well as for stock.

WALTER DIKEMAN.

Watkins' Liniment is not only a great thing in cases of serious injury through accident, but is always helpful in cases of Cold, Colic, Diarrhoea, Dysentery, Indigestion, Cuts, Burns, etc. It is equally good for man or beast. If by any chance we have no agent in your vicinity, write to us, and we will see that you are supplied.

A TREAT FOR ALL.



Our new Cook Book and Home Doctor, containing a hundred pages of valuable information in cooking, gardening etc. is out for '02. We mail it free to anyone sending his name and address on a postal card. Write at once and address

THE J. R. WATKINS MEDICAL CO.,
10 Liberty St. Winona, Minn., U.S.A.



Please mention Bee Journal when writing.

The "MUTH'S SPECIAL" is a REGULAR Dove-tail with a COVER and BOTTOM-BOARD

that is ABSOLUTELY WARP-PROOF, therefore the best dovetail Hive on the market. Our illustrated catalog explains it all. You can have one by asking. We sell the finest Supplies at manufacturer's prices.

Standard Bred Queens. None better than our BUCK-EYE STRAIN of 3-Banders and "MUTH'S STRAIN GOLDEN ITALIANS," by return mail. 75c each; 6 for \$4.00. Safe arrival guaranteed.

THE FRED W. MUTH CO., Front on Walnut Sts., CINCINNATI, OHIO.

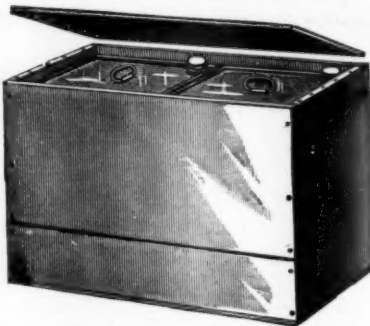
Please mention Bee Journal when writing

BEST Extracted Honey For Sale

ALL IN 60-POUND TIN CANS.

Alfalfa Honey

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.



Basswood Honey

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Alfalfa or Basswood Honey:

A sample of either, by mail, 10 cents, to pay for package and postage. By freight—two 60-pound cans of Alfalfa, 7½ cents per pound; 4 cans or more, 7 cents a pound. Basswood Honey, ½ cent more per pound than Alfalfa prices. Cash must accompany each order. You can order half of each kind of honey, if you so desire. The cans are two in a box, and freight is not prepaid. **Absolutely Pure Bees' Honey.**

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

was placed in another gable. The empty spaces in both hives were filled with new frames with starters.

The hive containing the old queen was worked for honey, and to test her longevity. It was done by giving large storage-room in early spring. She died the past season, having become infertile, aged over 5½ years, the colony having given over 60 pounds of comb honey each year after the first.

The other half of the original colony was worked for increase, and last spring showed 10 strong colonies, which, by autumn, had increased to 24—all but 2 by natural swarming—and over 600 pounds of choice honey for the season, half in pound sections, 113 pounds of which was from a single colony, and sold for 15 cents per pound, wholesale.

Most of the hives have each a glass end and side; so have the section-holders and extracting supers, heavy curtains excluding the light.

The bees have not disturbed any one, as they fly so high; when they swarm, passers—like the priest and levite—"go by on the other side" until the bees cluster on a tree or shrub on the lawn, or in the garden at the rear of the house.

No change is made in the condition or covering of the hives, summer or winter, save to put on or take off section-holders and extracting supers.

The bees have no chance to disturb the operator nor rob open hives. When a few get out into the room they dash for the window-screens and pass out through the bee-escapes.

The plan is an unqualified success. The average profit on each colony the past season was \$7.00, not counting the increase.

WINFIELD SCOTT SLY.



Colonies Strong for the Season.

Bees are in fine condition and strong for the season. The western hot wave has not reached this part of the world.

HENRY ALLEY.

Essex Co., Mass., April 23.

Shade for Hives.

I saw it recommended to plant artichokes for hive-shade. I do not think I should want my hives in an artichoke patch. I want the hives where I can see them, and when there is a breeze they can get the benefit of it.

For shade I put a stone on top of the hive, and then mow grass, weeds and artichokes, and put them on top. Mow in the evening or morning, and put it on green or wet. It will surprise you to see what a good shade you will have. Do not put the stone on top of the grass, for, if you do, when it rains it will run down under the stone and keep the top of the hive wet. By putting the grass on top of the stone, green or wet, when it dries you have a fine shade that will shed rain and keep the hive cool. The stone on the hive leaves an air-space under the grass.

Winnebago Co., Iowa.

L. C. GREEN.

A Word for the Cyprian Bees.

On page 232, Mr. E. E. Hasty, in his "Afterthought," makes some assertions which I think, to many, will convey ideas which he did not intend.

Mr. Hasty does not say what races he designated as the longest and shortest tongued, but from all recent measurements we are led to think he refers to Cyprians as the longest, and blacks as the shortest. This has been the result of measurements made by Profs. Gillette, Benton, and many others.

Mr. Hasty says, in his article, that the short-tongued race beats the long-tongued race in storing section honey. Whoever heard of Cyprians being recommended for work in sections? Evidently Mr. Hasty implies that blacks gather more honey and cap

it better. I grant the latter, as they do not fill their cells as full before capping, thus giving their combs a better appearance; but as to their surpassing Cyprians in gathering power, even the most prejudiced have admitted that Cyprians are the greatest honey-gatherers. Even Mr. Doolittle says they have excellent storing qualities.

For extracted honey the Cyprians are most certainly far superior. They fill a place in American apiculture that no other race can occupy.

There seems to be much prejudice against these Eastern bees, but in spite of all opposition they are steadily gaining in popularity, which, though not exactly in accordance with Mr. Hasty's statement, that they have been universally abandoned, is an actual fact.

I grant that tongues "are not all;" yet when long tongues urged on by such ambition as is universally accredited the Cyprians, the results must be obvious to all unprejudiced bee-keepers. Doubtless Mr. Hasty's views are due to his "new and unreliable glasses."

I do not sell bees or queens of this race or any other, but wish for facts rather than individual prejudice. B. E. GOODNOUGH.

Orleans Co., Vt., April 17.

A Bee-Keeping Woman's Dress.

I read recently an interesting article on "Bee-Keeping for Women," by Emma M. Wilson. I wish to suggest to her, and to other bee-women, the wearing of bloomers instead of an underskirt for bee-work. They will find them much lighter than an underskirt, and, besides, more protection from the bees. Bloomers are best made of blue drill or denim. I also wear leggings of the same material; that is so I can wear low shoes. I like a duck skirt and a gingham apron, as the gingham washes much more easily than denim. I wear gloves made of white duck, if I get into a hive that is inclined to be cross. I keep them in my pocket, handy, or else near by on a hive. I wear a black tarlatan veil.

Mrs. N. O. PENNY.

Brevard Co., Fla.

Artichokes for Hive Shade.

Bees are working now, having wintered in fine condition. Wild and tame plums are blooming, also early cherries, and artichokes are up, too.

I wish to offer thanks to Mr. Hasty, and will also say that there will not be very many hot days before artichokes will furnish shade. The strange thing about artichokes is, if the blossom is picked off the stalk, the tubers die a natural death. You see how easy they are kept from spreading. Asparagus, grapes, and rhubarb, are a whole season behind artichokes for shade.

I wanted to have sunflowers a few years ago, so I planted some on my place for poultry feed, but the neighbors gave me "a big talk," and I therefore gave it up. Five miles north of here there is a 160-acre farm not in cultivation for two seasons, and if I saw sunflowers it was on that place.

Kansas is called the "Sunflower State," but those farmers who live in a sunflower neighborhood hate them worse than cockleburrs.

ALBERT WILTZ.

Atchinson Co., Kans., April 20.

Cause of Low Prices of Honey.

I think our bee-keepers are to blame for the low price offered by the commission men early in the season. Take the year 1897, for example: There was about 10 days of the best honey-flow from clover that I ever saw, and immediately the bee-keepers began writing of honey "just rolling in." Well, that was all the surplus we got in this section, and some of our bees starved, but the commission men started in with low prices, and people sold. For did not the bee-papers report a great honey-flow? And it has taken a long time to convince the people that there is not a great deal of honey in the country.

I do not believe one could find 10 pounds of white honey in this locality to-day.

I wonder if the bee-keepers can not be in-

Headquarters —FOR— Beekeepers Supplies

Root's
Goods at
Root's
Factory
Prices

Distributor of same for THE SOUTH, TENNESSEE, KENTUCKY, WEST VIRGINIA, ILLINOIS and OHIO.

Complete stock for 1902 now on hand. The freights from Cincinnati are the lowest.

Prompt service is what I practice. Satisfaction guaranteed.

Catalog mailed free—send for same. The Standard Honey-Jars, Langstroth Hives, etc., at lowest prices.

You will save money by buying from me.

Orders taken for Queens—GOLDEN ITALIANS, RED CLOVER QUEENS, and CARNIOLANS. For prices I refer you to my catalog.

C. H. W. WEBER,

2146-2148 Central Ave., CINCINNATI, OHIO.
Successor to Chas. F. Muth & Son and A. Muth.
Please mention Bee Journal when writing.



IF YOUR TICKET

drew a mile of woven wire fencing, wouldn't you be mighty lucky if it specified "The PAGE?"

PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

Tennessee Queens



Daughters of Select Imported Italian, Select long-tongued (Moore's), and Select, Straight 5-band Queens. Bred 3 1/4 miles apart, and mated to select drones. No bees owned within 2 1/4 miles; none impure within 3, and but few within 5 miles. No disease. 29 years' experience. WARRANTED QUEENS, 75 cents each; TESTED, \$1.50 each. Discount on large orders. Contracts with dealers a specialty. Discount after July 1st

Send for circular.

JOHN M. DAVIS,

14A26t

SPRING HILL, TENN.

Please mention Bee Journal when writing

Our Choice for honey-gatherers is a cross between the Italian and Carniolan. A limited number of Nuclei and full colonies for sale. Healthy, vigorous, and excellent workers. Address, 20A4t E. S. ROE, CLARISSA, TODD CO., MINN.

\$5 TO START YOU IN BUSINESS

We will present you with the first \$5 you take in to start you in a good paying business. Send 10 cents for full line of samples and directions how to begin.

DRAPER PUBLISHING CO., Chicago, Ill.

COMB FOUNDATION ADVANCED 3 CENTS A POUND.

Owing to the increased price of beeswax, until further notice, dealers handling the A. I. Root Company's goods are compelled to raise the price of Comb Foundation 3 cents per pound above the prices found in their price-lists and catalogs. Please take notice.—Adv.

structed to wait until the chickens are hatched before counting them.

When the dwindling ceased last spring I had only 10 colonies out of 25, and there were only two of those that I considered of any value. But I fed them up and they did wonders, increasing to 16 colonies, and giving me something over 400 pounds of honey in sections. I sold it to the home trade at 12 and 15 cents per pound.

Mrs. C. A. BALL.

Oneida Co., N. Y., April 9.

Does Noise Disturb Bees?

There has been some discussion lately in regard to bees hearing. "Does noise disturb bees, etc.?" I tried 8 colonies the past winter in a new cellar, which I built last summer. This cellar is directly under the kitchen floor. Now, I have a family of boys and girls that like to romp and play as well as the average family of children does; furthermore, some of those colonies were directly under the kitchen wood-box. I have been in the bee-room when the boys would bring in their wood and drop it into the wood-box, and it actually seemed as if the wood-box and all were coming down through the floor into the cellar, yet it did not seem to disturb the bees in the least. This occurred every day, and yet after a confinement of five months and three days they were placed on the summer stands strong and in fine condition.

GEO. W. STONEMAN.

Door Co., Wis.



An Advantage of Clipped Queens.

What is probably new to many is thus given by G. M. Doolittle, in Gleanings in Bee-Culture:

I do not believe in not having hives all in readiness for swarms when they come; but in case of emergency, if the queen is clipped, you can hold a swarm out on a limb while you make a dozen hives, or all summer if you wish. If you ever wish to do this, as soon as you have the queen in the cage attach a short piece of wire to the cage; and as soon as the bees begin to alight, bend this piece of wire over the limb, so the caged queen will hang where the cluster will naturally be, when the swarm will alight and cluster the same as they would had the queen not been clipped. You can now go about anything you may wish to, making hives or anything else, resting assured that you will find the bees there when you are ready to take care of them. If they should go off they will come back to the limb as soon as they find their queen is not with them, and cluster there again, as I have had them do when conducting experiments along this line, I even holding them thus until they had started several combs, evidently concluding to make their future home on this limb. I at first thought, when they started off so, that they would return to the parent hive on coming back, instead of seeking out the limb; but the queen is of all-absorbing consequence to any swarm, and so they come back to her every time.

The Food Value of Honey.

You ask for an article on "Food Value of Honey as Compared with Meat, Cheese, Butter, etc." This is hard to give. All kinds of food are necessary to health, and the best condition of our bodies. The proteids—meat, cheese, white of egg—we positively must have to live at all. We call food containing much of these "hearty." If we have too little we are poorly nourished and crave them. The carbohydrates—starch and sugars, including honey—if not so absolutely necessary to life, are surely requisite to health and strength. We have a great sugar-factory in our bodies—the liver—so that we may have this necessary food even though we do not take it in our daily regimen.

Fats and oils are likewise necessary to the

3-Frame Nuclei For Sale.

We have arranged with a bee-keeper located in Kankakee Co., Ill., (within 12 miles of Kankakee), to fill orders for Nuclei of bees. All are to be first-class, and most of the bees show Italian markings. The queens in the Nuclei will be Italian, of this year's rearing.

The Nuclei are 3-frame Langstroth, in light shipping-boxes. Prices: 1 for \$3.00; 5 or more at \$2.75 each.

All are f.o.b. shipping-point, and will be sent by express, a postal card notice being mailed to each purchaser a day or two before shipping the bees.

GEORGE W. YORK & CO.,
144 & 146 Erie St., - CHICAGO, ILL.

BOYS WE WANT WORKERS

Boys, Girls, old and young alike, make money working for us. We furnish capital to start you in business. Send us 10c stamps or silver for full instructions and a line of samples to work with. **DRAPER PUBLISHING CO., Chicago, Ill.**

Please mention Bee Journal when writing.

1902—Bee-Keepers' Supplies!

We can furnish you with The A. I. Root Co's goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1902 catalog. **M. H. HUNT & SON, Bell Branch, Wayne Co., Mich**

Please mention Bee Journal when writing.

FREE FOR A MONTH

If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper published in the United States.

Wool Markets and Sheep

has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

WOOL MARKETS AND SHEEP. CHICAGO, ILL.

For Sale. 40 Colonies of —BEES—

mostly Italians. **D. C. BUCKSTAFF,**
18A3t 149 So. Main Street, OSHKOSH, WIS.

Please mention Bee Journal when writing.



SHIPPED ON APPROVAL

and Ten Days Free Trial to any person in U. S. or Canada. Not a cent deposit required on our Bicycles in advance.

1902 Models, \$9 to \$15

1900 & '01 Models, best makes, \$7 to \$11

500 Second-hand Wheels

all makes and models, good as new, \$3 to \$8.

Great Factory Clearing Sale at half factory cost. Tires, equipment & sundries, all kinds, half regular prices.

EARN A BICYCLE distributing 1000 catalogues on our new plan.

A RIDER AGENT in each town can make money fast on our wonderful 1902 proposition.

Write at once for lowest net prices to agents and our special offer.

MEAD CYCLE CO. Dept. 357 N. CHICAGO, ILL.

Please mention Bee Journal when writing.

It will be to Your Advantage to ascertain the rates from Chicago to New York, New England and all Eastern points, applying over the Nickel Plate Road and its Eastern connections. Three trains daily, on which there is no excess fare. One feature of service on that road is meals in dining-cars, on American club plan. Pay for what you get, but in no event more than from 35 cents to \$1.00. Folders, rates, and all information cheerfully furnished by applying to John Y. Calahan, General Agent, 111 Adams St., Chicago, Ill., Depot Fifth Ave., and Harrison St. Phone Central 2057.

4—18A3t

Please mention Bee Journal when writing advertisers.

best condition of our bodies. We could live on proteids alone, but not in best health, and such diet is very expensive when it alone ministers to our bodily needs. The liver can manufacture sugar when we eat only proteids, but it works much easier and more effectively when we eat liberally of the carbohydrates. Nearly all sugar and all starch must be digested before it can pass to the blood. Not so honey. The bees digest this for us. Thus we may well believe that of all the carbohydrates, honey is the best.

Thus we can say that honey is doubtless the very best food of its kind, and that such food is absolutely necessary to health and strength, and greatly conserves the more expensive and absolutely requisite proteids. The child voices his need of such food in his longing for candy. We act wisely when we give him all he desires in the best of sweets—honey—which should be served most liberally at every meal-time. This will check the desire which leads to the pernicious habit of taking candy at all times and on all occasions.—**PROF. A. J. COOK, in Canadian Bee Journal.**

Is there Danger in the Cell-Cup Plan?

Arthur C. Miller thinks there is. In an article in Gleanings in Bee-Culture, he says among other things:

Under natural conditions a queen lays an egg in a cell. For three days the embryo in this egg grows, the nourishment for the forming larva being the vitellus, or yolk. On hatching, it receives a food prepared in the stomach of the nurse-bee, consisting of honey and pollen acted on by the digestive secretions of her body. If the larva is destined to become a worker it receives such food for approximately three days, after which a gradual change takes place. According to Dr. A. de Planta's analysis, the solids in the food of the worker-larva, before the fourth day, consist of albumen 53.38; fatty substances 8.38; sugar 18.09 percent. After that time the proportions of the same elements are respectively 27.87, 3.69, and 44.93 percent—a very decided change. According to the same tables a larva destined for queen receives of albumen 45.14; fatty substances 13.55; sugar 20.39. These figures are taken from Mr. Cowan's book, "The Honey-Bee," page 123. Mr. Cowan also quotes Dr. de Planta as saying that, for the first three days, the food of queen-larvae is the same as of the worker-larvae for the same period (page 122), and that "queen-larvae were fed the same food during the whole term of their existence." There is a discrepancy here which needs investigating.

What I desire to impress on the mind of the reader is that, with each varying stage of the development of the embryo—that is, from the commencement of the incubation of the egg until the larva spins its cocoon, there takes place a change in the proportions of the elements of the food. It is of vital importance that these changes occur at the proper time, if the embryo is to develop normally. It should be borne in mind that the larval bee is as truly a developing embryo as is an unborn mammal.

Size of Hives.

"Is a larger hive than an 8-frame Langstroth desirable?"

Mr. Hall—For what purpose? I have equal to the 8-frame Langstroth hive, and I have equal to the 11-frame, and for extracted honey I want the large one, and for comb honey I don't trouble which one it is.

Mr. Holmes—Answer it both ways.

Mr. Hall—For comb honey the smaller one. In the location where you have a fall flow the smaller one, every time. In locations where you have nothing but white honey, where it shuts off July 22, the large one every time.

Mr. McEvoy—Wouldn't the man have something to do with it?

Mr. Hall—The man has something to do with all these things. He is the smallest portion of it. The field is first, the man is next, the hive is next.

Mr. Fixter—As far as my little experience is concerned, I have no use whatever for the large hive.

Mr. Hall—But you have no fall flow.

Mr. Fixter—No. We have had the 8-frame

FOR SALE.

125 8-frame Dovetailed Supers, 17 1/4 inches long inside, by 5 1/4 deep, closed-end extracting-frames—at 10 cts. each; also 175 Supers, same length, and 4 1/4 inches deep—at 5 cts. each; 8000 snow-white plain Sections for same, at \$1.75 per M.; 25 Covers for same, nailed and painted, at 12 cts. each. **E. W. BROWN, Box 102, 20A1f Morton Park, Cook Co., Ill.**

50 Colonies Bees For Sale

On 8 Hoffman Frames.
CLYDE CADY,
20A2t R. F. D. No. 3, GRASS LAKE, MICH.



The Life of the Wheel

depends upon the make of the wheel

ELECTRIC WHEELS

last almost forever. Fit any wagon, straight or staggered spokes. Write for the catalogue. We mail it free.

ELECTRIC WHEEL CO., Box 16, Quincy, Ill.

QUEENS—Try Our Stock.

DAVENPORT, IOWA, Dec. 31, 1901.

Your queens are fully up to standard. The honey queen that you sent my brother takes the lead. She had a rousing colony when put up for winter. The goldens can be handled without smoke or veil.

Very truly yours, **JOHN THOEMING.**

MONTHS.....	May and June.
NUMBER OF QUEENS.....	1 6 12
HONEY QUEENS	
Untested	\$1.00 \$5.00 \$ 9.00
Tested	1.25 7.00 11.00
GOLDEN QUEENS	
Untested	\$1.00 \$5.00 \$ 9.00
Tested	1.25 7.00 11.00

Select tested, \$2.00 each, after June 1.
Breeders, \$5.00 each, after June 1.

We begin mailing Queens about May 25, and fill orders in rotation. Circular free.

D. J. BLOCHER, Pearl City, Ill.
18E1f Please mention the Bee Journal.

BINGHAM'S PATENT 24 years the best. Smokers

Send for Circular.
25A1f **T. F. BINGHAM, Farwell, Mich.**

An Italian Queen Free!



We would like to have our regular subscribers (who best know the value of the American Bee Journal) to work for us in getting NEW subscribers. We do not ask them to work for us for nothing, but wish to say that we

will mail ONE FINE UNTESTED ITALIAN QUEEN for sending us ONE NEW subscriber for a year, with \$1.00; or 2 Queens for sending 2 new subscribers, etc. Remember, this offer is made only to those who are now getting the Bee Journal regularly, and whose subscriptions are fully paid up.

In case you cannot secure the new subscribers, we will mail one of these Queens for 75 cts., or 3 or more at 70 cts. each; or the Bee Journal one year and a Queen for \$1.50. We expect to be able to send them almost by return mail.

(Please do not get these offers mixed up with our Red Clover Queen offers on another page.)

GEORGE W. YORK & CO.,
144 & 146 Erie Street, - CHICAGO, ILL.

Wanted Comb and Extracted Honey!

State price, kind and quantity.
R. A. BURNETT & CO., 199 S. Water St., CHICAGO
33A1f Please mention the Bee Journal.

Langstroth, and a hive 15x15x20, and a hive 14x15x12; we have the Heddon hive; the 8-frame Langstroth hive can knock them all out. That is a three years' test.

Mr. Hall—Mine had 25 years' test.

Mr. Holtermann—I might just say that the company I am with are beginning, and after weighing it all carefully we have come to the conclusion, at least I have, that we are going to have 250 hives made, and that they are going to be 12-frame Langstroths.

Mr. Hall—Mine is equal to a 13-frame Langstroth.

Mr. Holtermann—I agree with Mr. Hall entirely. Mr. Hall says he wants the large hive for extracted honey, and for comb honey he does not care which he has. I don't want to run two kinds of hives if it can be avoided. If you are beginning two sizes of hives, and you can make both do for comb or extracted, I don't just see the objection that Mr. Hall has if you have the fall flow.

Mr. Hall—The objection is this: I tell you what I do at home. I take every ounce of white honey I can get from the top, and I either fill them up with foundation or put two together and run them down to the fall flow. They work together, and they give me 50 or 60 pounds of a fall flow.

Mr. Holtermann—You can contract through the light flow, and then give them more room for the dark.

Mr. Hall—I would rather keep them in the small hive so that they would not have any surplus honey down-stairs, and then give them a good chance to fill up with the fall flow.

Mr. Holtermann—You would contract to about 8 for winter?

Mr. Hall—If I am not lazy I would contract to 4. Four will hold 35 pounds.

Mr. Gemmill—I have some on 4 solid sealed combs now; that is all they have. I would like to endorse what Mr. Hall says. It is not so much the hive, it is the location and management. If I had Jones' hives I would use them; if I had smaller hives I would utilize them in such a way that I could make them big if I wanted to.

Mr. McEvoy—I think Mr. Gemmill set it right when he said it was the management; but I would want that management conducted with the 8-frame Langstroth.

Mr. Gemmill—In regard to wintering, do you mean?

Mr. McEvoy—No; in wintering, the big frame is nowhere. I would want the smaller hive then, every time.

Mr. Gemmill—Do like Mr. Hall, contract it if you want to. I want the big hive for summer.—Canadian Bee Journal.

CONVENTION NOTICE.

Illinois.—The Eastern part of the Northern Illinois Bee-Keepers' Association will hold their spring meeting at the residence of O. J. Cummings, 2½ miles northeast of Rockford, Ill., Tuesday, May 20, 1902. All interested in bees are invited to attend. R. KENNEDY, Sec.

400 Boxes 2d-Hand Cans.

We have on hand 400 BOXES of 60-lb. Tin Honey-Cans (2 cans in a box.) Many of them were emptied of honey by ourselves, and all have been carefully inspected. If we had occasion to do so, we would use them again ourselves. We need the room they occupy, and offer them at a low price to close out, as follows, f.o.b. Chicago: 5 boxes at 50 cts. each; 10 boxes, 40 cts. each; 20 boxes, 35 cts. each, 50 or more boxes, 30 cts. each. NEW boxes of cans are worth 75 cts. a box of 2 cans. So these 2d-hand cans are a bargain. Better speak quickly if you want any of them.

GEORGE W. YORK & CO.

144 & 146 Erie Street, CHICAGO, ILL.

Bees For Sale.

75 colonies in Improved Dovetailed Hives, in lots to suit purchaser.

O. H. HYATT,

13Atf SHENANDOAH, Page Co., IOWA.

3-Frame Nuclei FOR SALE

\$2.00 Each.

After May 15th, will sell 3-fr. Nuclei of Bees on L. frames, \$2.00 each, f.o.b. R.R. here; after June 1st, \$1.75 each. ALSO BEE-SUPPLIES

H. MOORE.

19A2t 704 McLemore Ave., MEMPHIS, TENN.



DAIRYMEN ARE DELIGHTED
to meet those who work for us. Cow keepers always have money. We start you in business. You make large profits. Easy work. We furnish capital. Send 10 cents for full line of samples and particulars.
DRAPER PUBLISHING CO., Chicago, Ills.

*Good Second-Hand Hives —FOR SALE—

10-frame Simplicity-Langstroth, standard in every way. When I kept bees I would have been glad to pay \$1.00 each for such hives. Write for particulars. **MRS. B. J. LIVINGSTON,**
19A2t CENTER CHAIN, MARTIN CO., MINN.

The Emerson Binder.

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only \$1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.,

144 & 146 Erie Street, CHICAGO, ILL.

Marshfield Manufacturing Company.

Our specialty is making SECTIONS, and they are the best in the market. Wisconsin BASSWOOD is the right kind for them. We have a full line of BEE-SUPPLIES. Write for free illustrated catalog and price-list.

Marshfield Manufacturing Company, Marshfield, Wis.

7A26t

Please mention Bee Journal when writing

**30 cents Cash
paid for Beeswax.**

low, upon its receipt, or 32 cents in trade. Impure wax not taken at any price. Address as follows, very plainly,

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.

Please Mention the Bee Journal when writing Advertisers *****

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, May 8.—The trade in honey of all kinds is light, especially is this true of comb, the little trade that exists is for the best grades. Basswood ranges from 14@15c; that having more or less basswood, willow or other white nectar, 13c; off grades of white, 10@12c; amber, 8@9c. Extracted, white, 5¼@6c; amber, 5@5¼c; some lots of new extracted offered, but no sales have been made. Beeswax scarce at 32c.

R. A. BURNETT & Co.

CINCINNATI, March 6.—The market in extracted honey is good with prices lower. Amber, for manufacturing purposes, brings from 5¼@6¼c; better grades from 7@8c. Fancy comb honey sells at 16c; lower grades hard to sell at any price. Beeswax strong at 27@30c.

THE FRED W. MUTH CO.

ALBANY, N. Y., May 1.—Honey market is dull. Very little call now for any grade. Well cleaned out of stock and season practically over. Some comb honey is selling at 14@15c. Extracted, 6@6¼c. Beeswax, good demand, 30@31c.

H. R. WRIGHT.

BOSTON, March 20.—The demand for comb honey remains good. Market ranges as follows: Fancy white, in cartons, 15@16c; A No. 1, 14@15c; No. 1, 13@14c; honey in glass-front cases about one cent less. Extracted, California light amber, 7@7½c; Florida honey, in barrels, 6@6¼c.

BLAKE, SCOTT & LEE.

DETROIT, Apr. 8.—Fancy white comb honey, 15c; No. 1, 13@14c; dark and amber, 11@12c. Extracted, white, 6¼@7c; dark and amber, 5@6c. Beeswax, 29@30c. **M. H. HUNT & SON.**

CINCINNATI, May 8.—As the warm weather set in, the demand for comb honey is as good as over. There are no settled prices; for whatever is left, prices are made to force sales. Extracted honey is in fair demand and finds steady sales. Amber is sold in barrel lots for 5@5¼c; water-white alfalfa, sells from 6@6¼c, and white clover brings from 6¼@7c. Beeswax scarce and brings 30@31c. **C. H. W. WEBER.**

NEW YORK, Apr. 7.—Comb honey, last year's crop, practically cleaned up, but as we wrote a little while ago we had received new crop from Cuba, and are now receiving new crop from the South. Demand is fair at 14c for fancy white, 13c for No. 1, 12c for No. 2, and 10@11c for amber. Extracted: The market is decidedly dull. Very little demand, with large stocks on hand, some of which no doubt will have to be carried over, and indications point to a further decline in prices. We quote: White, 6c; light amber, 5¼c; amber, 5c; Southern, 5¼@5¾c per gallon, according to quality. Even these prices are shaded in car lots. Beeswax, scarce and firm at 29@30c. **HILDRETH & SEIGHEEN.**

SAN FRANCISCO, Apr. 16.—White comb, 10@12½ cents; amber, 7@10c; dark, 6@7 cents. Extracted, white, 5@—; light amber, 4¼@—; amber, 4@—; Beeswax, good to choice, light, 26@28c; dark, 24@25c.

Demand is not very active, and market cannot be termed firm, although quotable values remain without important change. Considerable honey of last crop is now being offered, which up to a few weeks ago had been held off the market. New crop is expected to arrive in wholesale quantity in the very near future.

If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other published, send \$1.25 to

Prof. A. J. Cook, Claremont, Cal.,

—FOR HIS—

"Bee-Keeper's Guide."

Liberal Discounts to the Trade.

Please mention Bee Journal when writing.

1861 —ADEL QUEENS— 1902

Adel bees the Standard strain. My 1902 Catalog ready to mail May 1. Send for it. Address,

HENRY ALLEY, Wenham, Mass.

18Atf Mention the American Bee Journal.



SHEEP MONEY IS GOOD MONEY and easy to make if you work for us. We will start you in business and furnish the capital. Work light and easy. Send 10 cents for full line of samples and particulars.
DRAPER PUBLISHING CO., Chicago, Ills.
Please mention Bee Journal when writing.

BEE-KEEPERS,

Save Money by Buying

Hives, Sections, Brood Frames, Extractors, Smokers, AND EVERYTHING ELSE YOU NEED, OF**THE W. T. FALCONER MFG. CO.,**
Jamestown, N. Y.

Our goods are guaranteed of superior quality in every way. Send for our large illustrated catalog, and copy of

THE AMERICAN BEE KEEPER,
a monthly for all bee-keepers; 50c a year. (Now in 12th year. H. E. HILL, Editor.)

W. M. GERRISH E Nottingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

Please mention Bee Journal when writing.

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—**The Pacific Rural Press,**

The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated, \$2.00 per annum. Sample copy free.

PACIFIC RURAL PRESS,
330 Market Street. - SAN FRANCISCO, CAL.**\$300,000,000.00 A YEAR**
and you may have part of it if you work for us. Uncle Sam's poultry product pays that sum. Send 10c for samples and particulars. We furnish capital to start you in business. **Draper Publishing Co., Chicago, Ill.**

Please mention Bee Journal when writing.

Dittmer's Foundation!

Retail—Wholesale—Jobbing.

I use a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

Work Wax Into Foundation For Cash

at prices that are the lowest. Catalog giving

Full Line of Supplies,with prices and samples, free on application **BEE-SWAX WANTED.****GUS. DITTMER, Augusta, Wis.****European Tourists and Others** destined to Eastern points, will find the low rates applying over the Nickel Plate Road to New York, New England and other Eastern destinations, specially attractive. The Eastern terminals via this line are only from three to ten minutes from all ocean steamship docks, and the service afforded is first-class. Three trains daily from Chicago. Uniformed colored porters are in charge of day coaches, whose duties require that proper care shall always be given to keeping cars clean and attending to the wants of passengers en-route. Meals are served in dining-cars at prices that are reasonable and within reach of all. Details cheerfully furnished on application to John Y. Calahan, General Agent, 111 Adams St., Chicago. Chicago City Ticket Office, 111 Adams St. Phone Central 2057.

3-18A3t

BEEES**QUEENS**

Smokers, Sections, Comb Foundation And all Apianian Supplies cheap. Send for FREE Catalogue. E. T. FLANAGAN, Belleville, Ill.

Please mention Bee Journal when writing.

25th Year Dadant's Foundation 25th Year**We guarantee Satisfaction.** What more can anybody do? **BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS. PATENT WEED-PROCESS SHEETING.****Why does it sell so well?** Because it has always given better satisfaction than any other. Because in 24 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

Bee-Keepers' Supplies OF ALL KINDS *****Very fine pure-bred **BARRED PLYMOUTH ROCK** Chickens and Eggs for sale at very low prices.**Langstroth on the Honey-Bee—Revised,**

The classic in Bee-Culture—Price, \$1.25, by mail.

BEE-SWAX wanted at all times.....**CHAS. DADANT & SON,**

Hamilton, Hancock Co., Ill.

Please mention Bee Journal when writing.

THE DANZENBAKER HIVE

The best comb-honey hive on the market may be obtained of The A. I. Root Co., of Medina, Ohio; at any of their branch houses, and many of their local and jobbing agencies. Send to the address nearest you, and save freight, and get quick delivery.

Branch Offices.The A. I. Root Co., 10 Vine St., Philadelphia, Pa.
Wm. A. Selser, Manager.
The A. I. Root Co., Syracuse, N. Y.
F. A. Salisbury, Manager.
The A. I. Root Co., Mechanic Falls, Me.
J. B. Mason, Manager.
The A. I. Root Co., 1024 Miss St., St. Paul, Minn.
H. G. Acklin, Manager.
The A. I. Root Co., San Antonio, Texas.
Toepperwein & Walton, Managers.
The A. I. Root Co., 1240 Md. Av., S. W. Washington.
Saffell & Herrick, Managers.
The A. I. Root Co., San Ignacio 17 Havana, Cuba.
F. H. de Beche, Manager.**Jobbing Agencies.**Geo. W. York & Co., 144 & 146 Erie St., Chicago, Ill.
C. H. W. Weber, Cincinnati, Ohio
M. H. Hunt & Son, Bell Branch, Mich.
Walter S. Pouder, Indianapolis, Ind.
Jos. Nysewander, Des Moines, Iowa.
Jno. Nebel & Son, High Hill, Montgomery Co., Mo.
Prothero & Arnold, Du Bois, Clearfield Co., Penn.
Carl F. Buck, Augusta, Butler Co., Kan.
W. W. Cary & Son, Lyonsville, Mass.
The L. A. Watkins Mdee. Co., Denver, Colo.

Would you increase your profits? Then try the Danz. Hive. It's used from Maine to California. Read the following:

MECHANIC FALLS, MAINE, Feb. 28, 1902.

THE A. I. ROOT COMPANY, Medina, Ohio.

GENTLEMEN:—I am VERY, VERY pleased that you are willing I should recommend the Danz. hive. I have had a great many inquiries regarding it, and have not felt at liberty to recommend it over our regular hives. At first I was prejudiced against it, but the sales have increased without recommendations, and wherever I have sold they have bought again and praised the hive with extravagant claims, and I am forced to the conclusion that it is the BEST COMB-HONEY HIVE on the market.
J. B. MASON,
Manager North-eastern Branch The A. I. Root Co.

The above unsolicited testimonial speaks for itself.

M. H. Mendleson, of California, has just ordered 700 Danzenbaker supers. Sales are doubling every year. Still the demand for honey in Danz. sections is greater than the supply. If you are wise you will raise comb honey in Danz. hives.

THE A. I. ROOT CO.,

MEDINA, OHIO, U.S.A.

**GEORGE W. YORK & CO.,**144 & 146 Erie Street,
CHICAGO, ILL.

are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO. Send to them for their free Catalog.